

AMENDMENTS TO THE CLAIMS:

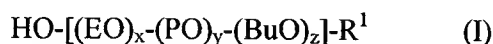
This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original) A process for preparing a polymer **P** having amide and ester groups, characterized in that,

in a first step, a homo- or copolymer **P1** of (meth)acrylic acid is reacted with a monohydroxylic compound **E** at a temperature of up to 200°C so as to form anhydride groups in addition to ester groups,

and, in a second step, the anhydride groups formed in the first step are reacted with a monoamine compound **A** at temperatures significantly below 100°C to give the amide.
2. (Currently Amended) The process as claimed in claim 1, characterized in that the first step is effected in the presence of an acid, ~~especially sulfuric acid, p-toluenesulfonic acid, benzenesulfonic acid, methanesulfonic acid, phosphoric acid or phosphorous acid, preferably sulfuric acid.~~
3. (Previously Presented) The process as claimed in claim 1, characterized in that the monohydroxylic compound **E** is a C6- to C20-alkyl alcohol or has the formula (I)



where x, y and z each independently have the values of 0-250 and $x + y + z = 3-250$;
EO = ethyleneoxy, PO = propyleneoxy, BuO = butyleneoxy or isobutyleneoxy, with a sequence of the EO, PO, BuO units in any possible sequence;

and R^1 = alkyl group having 1-20 carbon atoms or alkylaryl group having 7-20 carbon atoms.

4. (Original) The process as claimed in claim 3, characterized in that $z = 0$ and R^1 = methyl, ethyl, i-propyl or n-butyl group.
5. (Currently Amended) The process as claimed in claim 3, characterized in that the monohydroxylic compound **E** is a polyalkylene glycol which is capped at one end and has a molecular weight M_w of from 300 to 10 000 g/mol, ~~especially from 500 to 5000 g/mol, preferably from 800 to 3000 g/mol.~~
6. (Currently Amended) The process as claimed in claim 1, characterized in that the homo- or copolymer **P1** of (meth)acrylic acid is prepared by homopolymerization of (meth)acrylic acid or by copolymerization of (meth)acrylic acid with at least one further monomer selected from the group ~~comprising of~~ comprising α, β -unsaturated carboxylic acids, α, β -unsaturated carboxylic esters, α, β -unsaturated carboxylates, styrene, ethylene, propylene, vinyl acetate and mixtures thereof.
7. (Currently Amended) The process as claimed in claim 6, characterized in that the further monomer is selected from the group ~~comprising of~~ comprising methacrylic acid, acrylic acid, crotonic acid, itaconic acid, maleic acid, fumaric acid, and the salts, esters and mixtures thereof.
8. (Currently Amended) The process as claimed in claim 1, characterized in that the copolymer **P1** is a copolymer of acrylic acid and methacrylic acid and salts or

partial salts thereof; or the homopolymer **P1** is a polymethacrylic acid or polyacrylic acid, ~~preferably a polymethacrylic acid~~, the salts or partial salts thereof.

9. (Currently Amended) The process as claimed in claim 1, characterized in that the homo- or copolymer **P1** of (meth)acrylic acid is prepared by a radical polymerization in the presence of at least one molecular weight regulator, ~~especially of a sulfur compound or of a phosphorus compound~~.
10. (Currently Amended) The process as claimed in claim 1, characterized in that the homo- or copolymer **P1** is a homo- or copolymer which is formed from 10 to 250, ~~preferably 20 to 100, in particular 25 to 80~~, monomer units.
11. (Currently Amended) The process as claimed in claim 1, characterized in that the monoamine compound **A** is an amine of the formula (II):



where

R^2 and R^3 together form a ring which optionally comprises oxygen, sulfur or further nitrogen atoms;

or where R^2 and R^3 are each independently an alkyl group having from 1 to 12 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a hydroxyalkyl group, ~~especially $-CH_2CH_2-OH$ or $-CH_2CH(OH)CH_3$~~ , a compound of the formula (III), (IV) or (V), or H ;



where R⁴ is an alkylene group and R⁵ is a C₁- to C₄-alkyl group, and X is an S, O or N, and v = 1 when X = S or O, or v = 2 when X = N; and R⁶ is an alkylene group optionally having heteroatoms;

x, y, z each independently have the values of 0-250 and $x + y + z = 3 \cdot 250$;

EO = ethyleneoxy, PO = propyleneoxy, BuO = butyleneoxy or isobutyleneoxy, with a sequence of the EO, PO, BuO units in any possible sequence;

and R¹ = alkyl group having 1-20 carbon atoms or alkylaryl group having 7-20 carbon atoms.

12. (Currently Amended) The process as claimed in claim 11, characterized in that compound A is selected from the group comprising of ammonia, morpholine, 2-morpholin-4-ylethylamine, 2-morpholin-4-ylpropylamine, N,N-dimethylaminopropylamine, ethanolamine, diethanolamine, 2-(2-aminoethoxy)ethanol, dicyclohexylamine, benzylamine, 2-phenylethylamine and mixtures thereof.
13. (Previously Presented) The process as claimed in one claim 1, characterized in that a monoamine compound A' is used in the first step in addition to the monohydroxylic compound E.

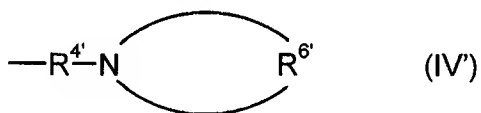
14. (Currently Amended) The process as claimed in claim 13, characterized in that the monoamine compound A' is an amine of the formula (II'):



where

$R^{2'}$ and $R^{3'}$ together form a ring which optionally comprises oxygen, sulfur or further nitrogen atoms;

or where $R^{2'}$ and $R^{3'}$ are each independently an alkyl group having from 8 to 20 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a compound of the formula (III'), (IV') or (V'), or H;



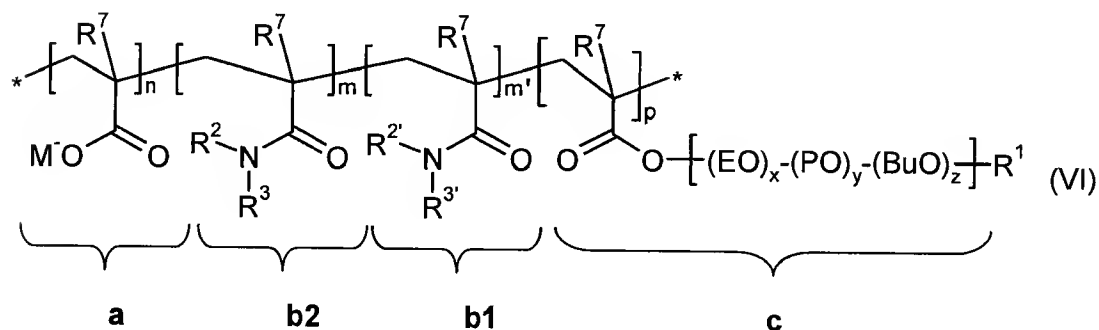
where $R^{4'}$ is an alkylene group and $R^{5'}$ is a C_1 - to C_4 -alkyl group, and X is an S, O or N, and $v = 1$ when $X = S$ or O , or $v = 2$ when $X = N$; and $R^{6'}$ is an alkylene group optionally having heteroatoms,

x, y, z each independently have the values of 0-250 and $x + y + z = 3-250$;

EO = ethyleneoxy, PO = propyleneoxy, BuO = butyleneoxy or isobutyleneoxy, with a sequence of the EO, PO, BuO units in any possible sequence;

and R^1 = alkyl group having 1-20 carbon atoms or alkylaryl group having 7-20 carbon atoms.

15. (Currently Amended) The process as claimed in claim 14, characterized in that in the monoamine compound A' of the formula (II') the substituent R^{2'} is of formula (V') and R^{3'} is H ~~the substituents R²² of the formula (V')~~ and R³² in the compound A' of the formula (II') are each H, and the compound A' is in particular an ~~α -methoxy- ω -amino-oxyethylene-oxypropylene copolymer or an α -methoxy- ω -amino-polyoxyethylene, preferably α -methoxy- ω -amino-polyoxyethylene.~~
16. (Currently Amended) The process as claimed in claim 1, characterized in that the second step is effected in a solvent, ~~especially in hexane, toluene, xylene, methyleyclohexane, cyclohexane or dioxane, or alcohols or water, preferably water.~~
17. (Currently Amended) The process as claimed in claim 1, characterized in that the temperature of the first step is between 140°C and 200°C, and the temperature of the second step is between 10°C and 60°C, ~~preferably between 15°C and 40°C.~~
18. (Currently Amended) The process as claimed in claim 1, characterized in that the polymer P having amide and ester groups has the formula (VI):



where M = cation, especially H^+ , Na^+ , $\text{Ca}^{++}/2$, $\text{Mg}^{++}/2$, NH_4^+ or an organic ammonium;

R^7 are each independently an H or methyl, especially methyl;

and

R^2 and R^3 together form a ring which optionally comprises oxygen, sulfur or further nitrogen atoms;

or

R^2 and R^3 are each independently an alkyl group having from 1 to 12 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a hydroxyalkyl group, especially $-\text{CH}_2\text{CH}_2\text{OH}$ or $-\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$, a compound of the formula (III), (IV) or (V), or H ;

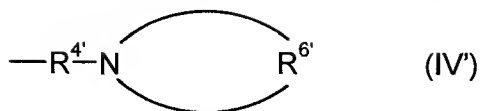


and

$R^{2'}$ and $R^{3'}$ together form a ring which optionally comprises oxygen, sulfur or further nitrogen atoms;

or

$R^{2'}$ and $R^{3'}$ are each independently an alkyl group having from 8 to 20 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a compound of the formula (III'), (IV') or (V'), or H ;



and

$n + m + m' + p = 10-250$, preferably $20-100$, and $n > 0$, $m > 0$, $p > 0$ and $m' \geq 0$,

and where

R^4 and $R^{4'}$ are each an alkylene group,

R^5 and $R^{5'}$ are each a C_1 - to C_4 -alkyl group,

R^6 and $R^{6'}$ are each an alkylene group optionally having heteroatoms,

X is an S, O or N,

$v = 1$ when $X = S$ or O , or $v = 2$ when $X = N$,

x, y, z each independently have the values of $0-250$ and $x + y + z = 3-250$;

EO = ethyleneoxy, PO = propyleneoxy, BuO = butyleneoxy or isobutyleneoxy, with a sequence of the EO, PO, BuO units in any possible sequence; and

R^1 = alkyl group having 1-20 carbon atoms or alkylaryl group having 7-20 carbon atoms.

19. Cancelled.

20. Cancelled.

21. Cancelled.

22. Cancelled.
23. Cancelled.
24. Cancelled.
25. (New) A process according to claim 2, wherein the first step is effected in the presence of an acid selected from the group of sulfuric acid, p-toluenesulfonic acid, benzenesulfonic acid, methanesulfonic acid, phosphoric acid or phosphorous acid. , preferably sulfuric acid.
26. (New) A process according to claim 25, wherein the first step is effected in the presence of sulfuric acid.
27. (New) A process according to claim 5, wherein the monohydroxylic compound **E** is a polyalkylene glycol which is capped at one end and has a molecular weight M_w of from 500 to 5000 g/mol.
28. (New) A process according to claim 27, wherein the monohydroxylic compound **E** is a polyalkylene glycol which is capped at one end and has a molecular weight M_w of from 800 to 3000 g/mol.
29. (New) A process according to claim 8, wherein the homopolymer **P1** is a polymethacrylic acid, the salts or partial salts thereof.

30. (New) A process according to claim 9, wherein the homo- or copolymer **P1** of (meth)acrylic acid is prepared by a radical polymerization in the presence of especially of a sulfur compound or of a phosphorus compound.
31. (New) A process according to claim 10, wherein the homo- or copolymer **P1** is a homo- or copolymer which is formed from 20 to 100 monomer units.
32. (New) A process according to claim 31, wherein the homo- or copolymer **P1** is a homo- or copolymer which is formed from 25 to 80, monomer units.
33. (New) A process according to claim 11, wherein R^2 and R^3 together form a ring which comprises oxygen, sulfur or further nitrogen atoms.
34. (New) A process according to claim 11, wherein R^2 and R^3 are each independently an alkyl group having from 1 to 12 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a $-CH_2CH_2-OH$ or $-CH_2CH(OH)CH_3$ group, a compound of the formula (III), (IV) or (V), or H.
35. (New) A process according to claim 14, wherein $R^{2'}$ and $R^{3'}$ together form a ring which optionally comprises oxygen, sulfur or further nitrogen atoms.
36. (New) A process according to claim 15, wherein the compound **A'** is an α -methoxy- ω -amino-oxyethylene-oxypropylene copolymer or an α -methoxy- ω -amino-polyoxyethylene.

37. (New) A process according to claim 36, wherein the compound A' is an α -methoxy- ω -amino-polyoxyethylene.
38. (New) A process according to claim 16, wherein the second step is effected in a solvent selected from hexane, toluene, xylene, methylcyclohexane, cyclohexane or dioxane, or alcohols or water, preferably water.
39. (New) A process according to claim 38, wherein the second step is effected in water.
40. (New) A process according to claim 17, wherein the temperature of the second step is between 15°C and 40°C.
41. (New) A process according to claim 18, wherein M is H⁺, Na⁺, Ca⁺⁺/2, Mg⁺⁺/2, NH₄⁺ or an organic ammonium.
42. (New) A process according to claim 18, wherein R² and R³ together form a ring which comprises oxygen, sulfur or further nitrogen atoms.
43. (New) A process according to claim 18, wherein R² and R³ are each independently an alkyl group having from 1 to 12 carbon atoms, a cycloalkyl group having from 5 to 9 carbon atoms, an aralkyl group having from 7 to 12 carbon atoms, a -CH₂CH₂-OH or -CH₂CH(OH)CH₃ group, a compound of the formula (III), (IV) or (V), or H.

44. (New) A process according to claim 18, wherein $R^{2'}$ and $R^{3'}$ together form a ring which comprises oxygen, sulfur or further nitrogen atoms.
45. (New) A process according to claim 18, wherein $n + m + m' + p = 20-100$.